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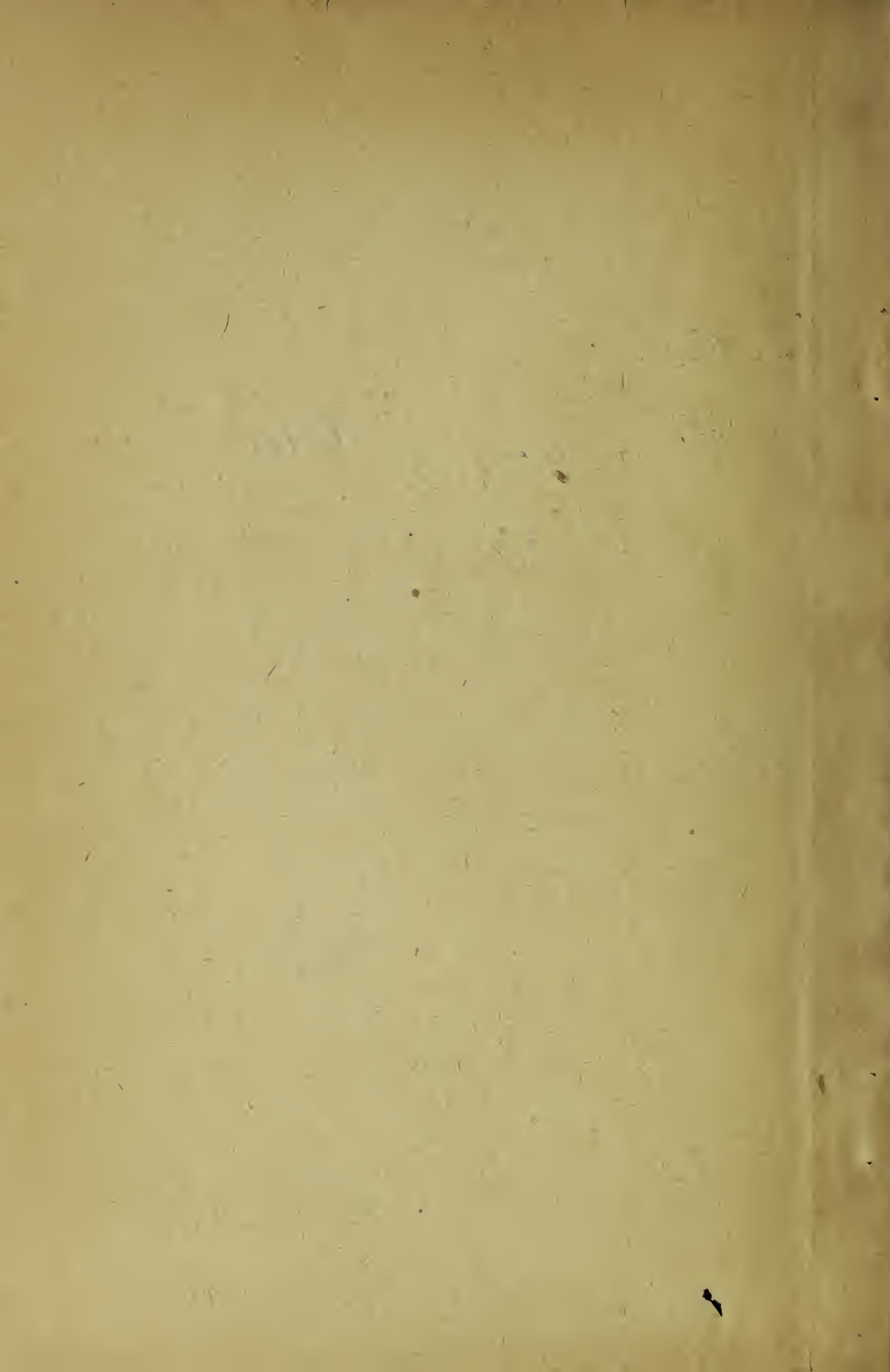
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## The extermination of America's Bird Fauna.

By

R. W. Shufeldt.

(With Pl. I—III.)

Ever since man became the dominant type in the animal world on this planet, he has, with but a few excepted instances, been the arch enemy and destroyer of all the other groups of vertebrates, and of not a few of the invertebrates. He has, as a matter of fact, spared only those which could be utilized by him for his support, welfare or pleasure; and without exception, these have only been saved by depriving them of their liberty and reducing them to a state of domestication. Rarely has this been otherwise, as in the case of the animals partially protected in the Yellowstone National Park and elsewhere.

In a brief article like the present one, it would be out of the question to take up the matter of the extermination of all kinds of animals in all parts of the world; for quite a volume would be required to do such a broad subject full justice. The general statement made above, however, covers the entire matter; and in principle, there is no difference between the extermination of buffaloes or lobsters, than there is between what happens in the same way to prairie chickens or fur seals. With greater or less rapidity, such kinds of animals all have the same history, — they pass through all the wellknown stages of extermination, from millions to minus; and man, in the main, is invariably the

agent responsible for their total extinction in the outcome. Personally I believe — and we have not a little evidence on the point — that this was likewise the case in prehistoric times. After man became the dominant type on the globe, and far enough along to be able to make and use crude weapons of offence, he exterminated, in time, many kinds of animals which in prehistoric time roamed over the Earth in various regions.

We cannot, however, enter upon such a discussion here; and, as a matter of fact, I propose to limit myself to what is now going on in the case of birds all over the world in this matter of their extermination; to what has led up to it, and, finally, if there be any cure for it.

When, in geologic time, the Class Birds became more or less differentiated from their reptilian ancestors, they were of various sizes and of many kinds. There were aquatic as well as terrestrial species, and nearly all — if not all of them — still exhibited in their structure evidentiary characters of whence they arose. Some were immense ostrich types; some possessed true teeth; some flew, and some were flightless; some doubtless fed upon what the vegetable world afforded and upon certain invertebrates; while others lived solely upon fish or preyed upon many of the land animals, including their own kind. Those that were adapted to their environments flourished and represented the stock from which the modern forms are derived. Others, less plastic and in no way in harmony with the then life on the globe and their surroundings, perished, and left no descendants. Of the last, thousands upon thousands of species, genera, indeed entire orders, thus died out, leaving not a trace nor a hint as to what they were like or what their habits may have been. In short, the fossil remains of birds stand as the rarest of any among all the Vertebrata which existed during the various geological eras. Certain it is, however, that, as time passed on, the big and cumbersome types of reptilian birds gradually -- or perhaps,

sometimes, very suddenly — died out and became utterly extinct, until but a mere suggestion of them are now in existence, and these only of a very few kinds, as in the case of the ostrich forms, the kiwis, certain marine species, and such ornithic characters as occur in the Australian Duckbill, which point, in fact, to its avian relationships. For the rest, they, in due course, became completely modernized; assumed a complete coat of feathers or structures resembling them; lost all their teeth, and became, structurally speaking, bipedal.

It is quite unlikely that man — as man — existed anywhere on the globe at the time when many true birds of various genera and species had evolved; so, as a Class of animals, it did not at the outstart of its evolution have this, the arch enemy of its kind, to contend against. Doubtless the raptorial species among them preyed upon others, and they had numerous enemies among other groups of animals, such as certain reptiles and mammals. Notwithstanding all this, birds became more and more differentiated from other groups; while, at the same time, they became wonderfully numerous in nearly all parts of the world, — being represented by hundreds of different families and a great many suborders. So that, when man in any numbers appeared upon the scene, untold millions upon millions of birds existed all over the Earth. They were only absent, perhaps, in the extreme polar regions, — that is, within the north and south polar circles. Sea-birds and water-fowl with millions of waders swarmed on islands everywhere; while the tropical and temperate zones were filled — as to their mountains, their plains and their forests — with many, many species of birds.

Early man probably only captured certain kinds for food, or for their feathers, which latter he used but sparingly for ornament and for a few other purposes. At first, the number of birds destroyed by earliest man must have been quite insignificant, and in no way equal to the thousands destroyed by



other animals, for they held their own everywhere, and increased to numbers almost unthinkable for the human mind.

Then came the marvelous increase of our own species, spreading all over the Earth, from one or several centers as the case may have been. To some extent, this checked an undue bird-expansion in many quarters; for, as far back as we can trace human history, men have always preyed upon birds, killing thousands of them for food, for finery, and for other purposes.

Many centuries after this, records of birds-histories began to be preserved in one way or another among the more advanced groups of mankind, which records were made more permanent as the art of printing evolved. Men, in those ages, never thought for an instant that there could ever such a thing happen as the extermination of all the wild birds on the globe; so they kept killing them as before, and thoughtlessly believed — if any thought were given to the matter at all — that the supply was inexhaustible, and the stock could easily maintain itself through propagation — no matter how many were destroyed.

Thus things stood pretty much at the close of the eighteenth and beginning of the nineteenth centuries in this country. Little or nothing was known of the territories and vast expanse of country west of the Mississippi Valley, while Canada and Mexico will be referred to later. No one noted any decrease in the birds of the United States and her territorial possessions during colonial times, when wild turkeys were shot all over New England, and were found in millions all over the rest of the country. One very early writer before me states that in Florida these birds caused the Earth to tremble when they all gobbled together in the forest at the dawn of day. No danger of Florida getting any such jar as that in these days!

Audubon describes the "netting" of quails in the Western and Southern States during his time (1832), when three or four men on horseback would capture and kill these birds to the

extent of "many hundreds in the course of a day." This practice — to say nothing of what traps and the gunners were doing — was going on everywhere. Think of three men in New Jersey netting 600 quails in one day, killing them as captured, and sending the lot to market where they fetched a quarter of a dollar a pair! Three men only! No issuance of a note of warning of future extermination was then thought of, though these "sportsmen" were often considerate enough to allow one pair its freedom out of every bunch captured, in that "the breed might be continued."

Again, in Audubon's earlier days (1813), he saw flocks, miles long, of the common wild Passenger pigeon, numbering hundreds of millions. Millions upon millions of these birds were slaughtered in this country every year; millions of them were allowed to rot upon the ground, after having been shot or knocked down; yet Audubon wrote that "Persons unacquainted with these birds might naturally conclude that such dreadful havoc would soon put an end to the species. But I have satisfied myself, by long observation, that nothing but the gradual diminution of our forests can accomplish their decrease, as they not infrequently quadruple their numbers yearly, and always at least double it." In this prediction the "great bird-man" was again mistaken; for those untold billions of passenger pigeons are now all extinct, and we have still enormous stretches of primeval forests left, but not a single pigeon in them. Already 1000 dollars has been offered for a single nest with eggs, and a good skin will soon be worth as much. In 1872, in Connecticut, I saw flocks of these pigeons that obscured the sun as they passed. During the day I shot thirty-six of them and stopped; others shot hundreds, and the firing on the hills north of Stamford was continuous for three days. Barrels upon barrels of the birds were slaughtered.

In 1864 I was in southern Florida and on the Bahama Banks for over a year. In those times, the various kinds of

waders, pelicans and sea fowl of many species were to be seen in millions. I have seen gulls, terns, cormorants, men-o'-war birds and the like, arise from their eggs on the breeding-grounds in such numbers as to darken the sun for hours like a total eclipse until they settled down again. Some of my friends have been in the Bahamas and Florida recently (1912); were they astounded at the vast number of roseate spoonbills and flamingoes they saw?

During the latter part of the seventies, I traveled nearly all day along the South Platte River in an express train. Canada geese literally covered the river and the rolling country on both sides of it as far as one could see, for hours at a time, as we passed on; and, as darkness approached, their numbers were undiminished. It was an easy matter to shoot a hundred or more in a forenoon. Has this country anywhere anything of the kind to show now?

In 1867 there used to be a cat-tail swamp at Stamford, Connecticut, near the steamboat-landing; it covered some ten acres. One evening I saw the barn swallows go to roost there; they actually crushed the rushes down in many places, and still the air was filled with thousand of the birds as darkness came on. How many barn swallows does one see around Stamford in a season in these days? A hundred pairs? I think not! In Mexico, in 1859, I saw on the Coatzacoalcos River a flock of many thousands of scarlet ibis; it was a never-to-be forgotten sight as they all came down together and covered several acres of a mud flat on the shores of the river.

Again, I have seen Long Island Sound in the winter time, forty miles from New York City, actually covered with a dozen species of sea ducks, — flocks of thousands of each kind; one could hear the old wives for miles. Sometimes as many as four or five swivel-gun sloops were at work among them, killing from fifty to two hundred at a shot, and keeping this up all day and every day, for the markets or often only for "sport".



In the winter of 1865 I once saw the various species of gulls and terns so numerous in New York harbor, that over fifty boats of the "feather-collectors" were out shooting them. One man passed near the quarter of the gunboat I was on board of, as I stood on deck, and I calculated he had at least two or three hundred gulls in his boat. He was using a single-barreled muzzle-loading gun, and was pulling ashore for more ammunition.

In the winter it is truly pitiful to see the little flocks of gulls off „The Battery“ nowadays. Sometimes there really may be as many as ten in a flock and four in another, — the two being a little over half a mile apart! This is the history of gulls and terns in New York harbor for less than half a century. Mark you, in another half century, a gull flying over those waters will be an extraordinary sight indeed, and worthy of note in various ornithological publications!

No, in my opinion, the Passenger pigeon and Labrador duck in this country are utterly extinct, — quite as much so as the Great Auk (see illustrations), and not a few more of our species are now going in precisely the same way, such as the Carolina parrot, the Ivory-billed woodpecker, the Sharp-tailed grouse, and forty other fine species of birds.

When the Japanese ship hundreds of bales of birds-skins for fashion purposes from the islands of the Pacific in one season, gulls, terns and albatrosses will not last very long. Not long ago, one invoice of humming-bird skins from South America totaled 400,000 skins! In Italy, the bird fauna has practically been exterminated, and this is rapidly coming to pass in hundreds of other localities, in the far East, in South America, in Europe, Asia, and even in Africa and Australia.

In other words, all over the world birds are now being exterminated with enormous and ever increasing rapidity. Within the next few years, hundreds of species will become entirely extinct.

When a species — be it a bird or any other animal — once becomes extinct, it is never reproduced again.

In my opinion, the entire Class Birds is now doomed to utter extinction; and, in a century or so, the world will be birdless, and will, when that time has expired, be represented by only a few kinds which have survived through man's having domesticated them. That this would be their fate, I predicted nearly a quarter of a century ago (*Science*, Vol. XVIII, 1891), and I see no reason for changing my opinion. All the protection they receive will not save them from their increasing natural enemies; from man and his numerous weapons and devices for their destruction; from the plume collectors and Italian destroyers; from poison, cats and traps; from boys all over the world with their airguns and destructive propensities; from the elements, as many thousands are drowned every year by being blown into the water; from the fact that they have no safe places of refuge as have fishes and other vertebrates; from striking against wires, lighthouses and other structures of the kind; from the fact that they are, in contradistinction to mammals, all oviparous, and all over the world their eggs are destroyed every year by the million, thus defeating their reproduction. Moreover, the human population of the world is now increasing with astounding rapidity; so that when certain species of birds become nearly extinct, nothing protects them now, nor will anything protect in the future such species from destruction at the hands of the museum and ornithological collectors. No law will be of any avail, and when such is the case it will come too late.

A Labrador duck in nature to-day, wearing, as it does, a skin worth over 1000 dollars, would stand no more chance for its life, were it found by any one with the means of capturing it, than would a man falling out of an air-ship when a

thousand feet above the Earth. It would be collected, — that's all!

This is what is going on right now. The plume and feather collectors all over the world reduce a species to the very door of extermination, after which that species "does not pay to hunt;" then the collector, finding that the bird is about to disappear forever, steps in and rakes in the rest for museums or private collections, — each collector justifying himself by saying: If I do not collect it, some one else will. How long does any one suppose our Wood ducks will last, when certain of its feathers are now being advertised for at twentyfive cents apiece?

It required a great many thousand years for birds to become completely differentiated from their reptilian stock; when they did, they passed on to great perfection, — in most instances to extreme beauty, to marvelously refined structure and song, and — unfortunately for them in only too many instances — to great delicacy of flesh. All of these factors will result in their destruction. There are less than 15 000 different species in the world's avifauna; and, from what I have pointed out above, I am of the firm conviction that there is no saving them. To me, it is a horrible thing to think of, — a birdless world!

- Pl. I. The Great Auk. By the author, after Audubon. This bird became extinct a little more than half a century ago; its egg is worth 1200 dollars.
- Pl. II. The Pied or Labrador Duck. Reproduction of the author's painting of the bird. This bird is now utterly extinct, and skins of it have recently sold for 1000 dollars each.
- Pl. III The Passenger Pigeon. By the author, after Audubon. This magnificent pigeon is now extinct, having been exterminated by man in North America. In 1830, they occurred in the United States in flocks of hundreds of millions 500 dollars or more will be paid to one locating a single nest and eggs.







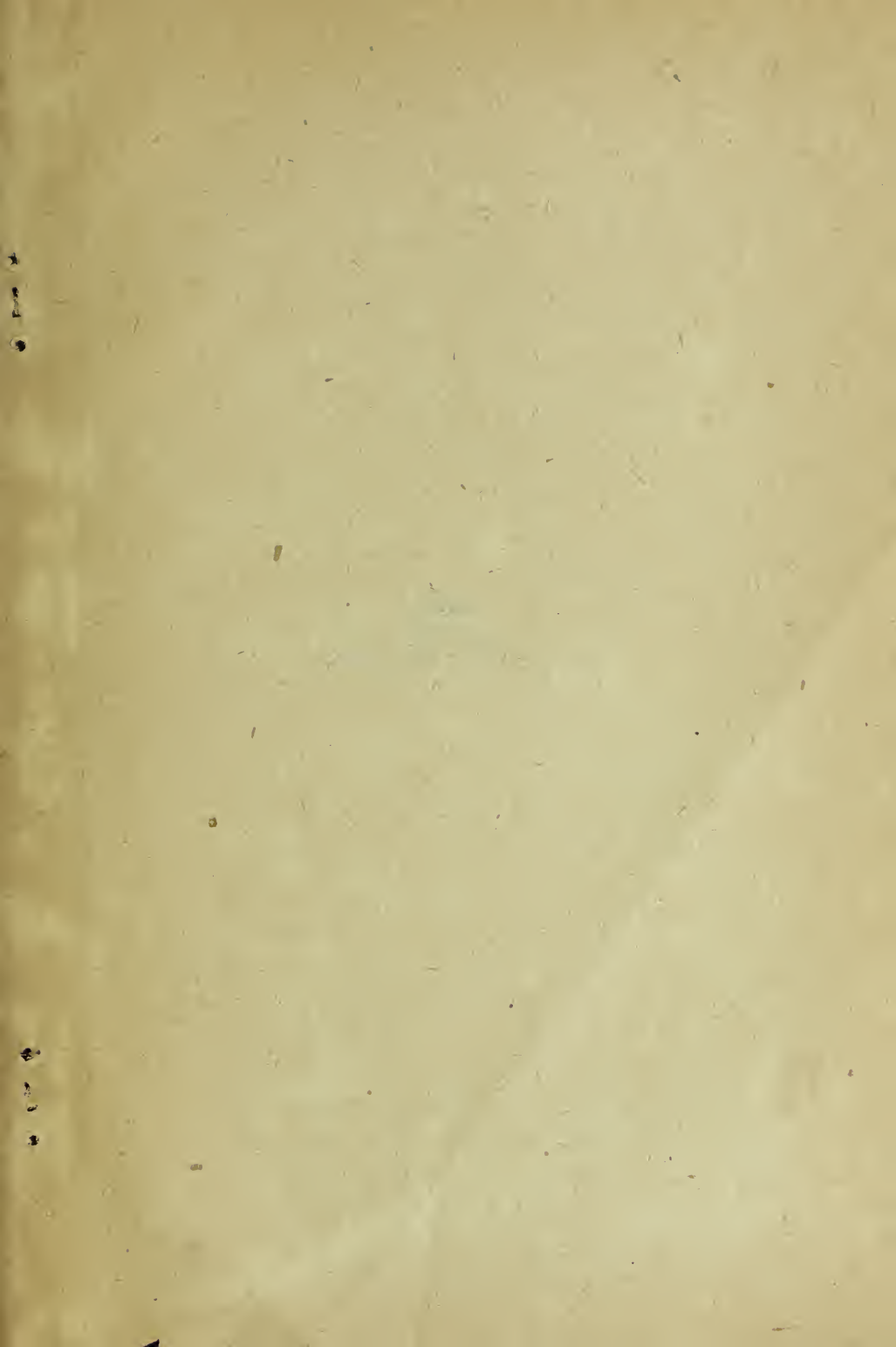














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